

Unit 10

Day 2

Quadratic Inequalities

Section 2.7 of textbook

$$\textcircled{4} \quad -6(1-3x)(3x-2)^2(x-8)^3 < 0$$

$$1-3x=0 \quad (3x-2)^2 \quad x=8$$

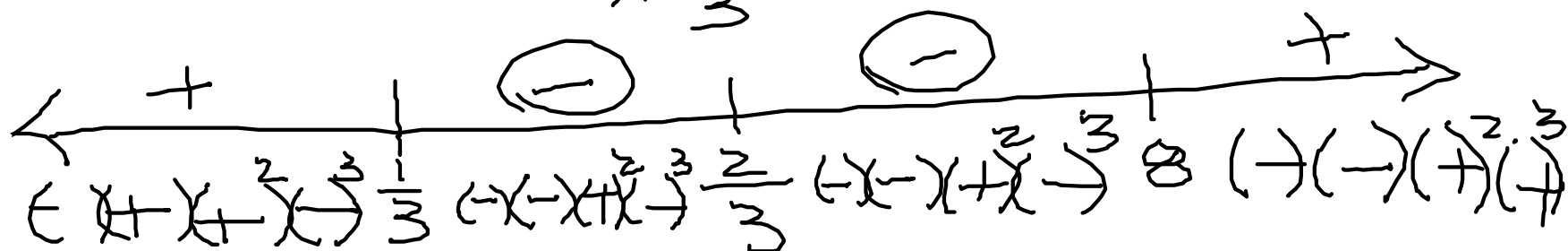
$$-3x=-1$$

$$x=\frac{1}{3}$$

$$3x-2=0$$

$$3x=2$$

$$x=\frac{2}{3}$$

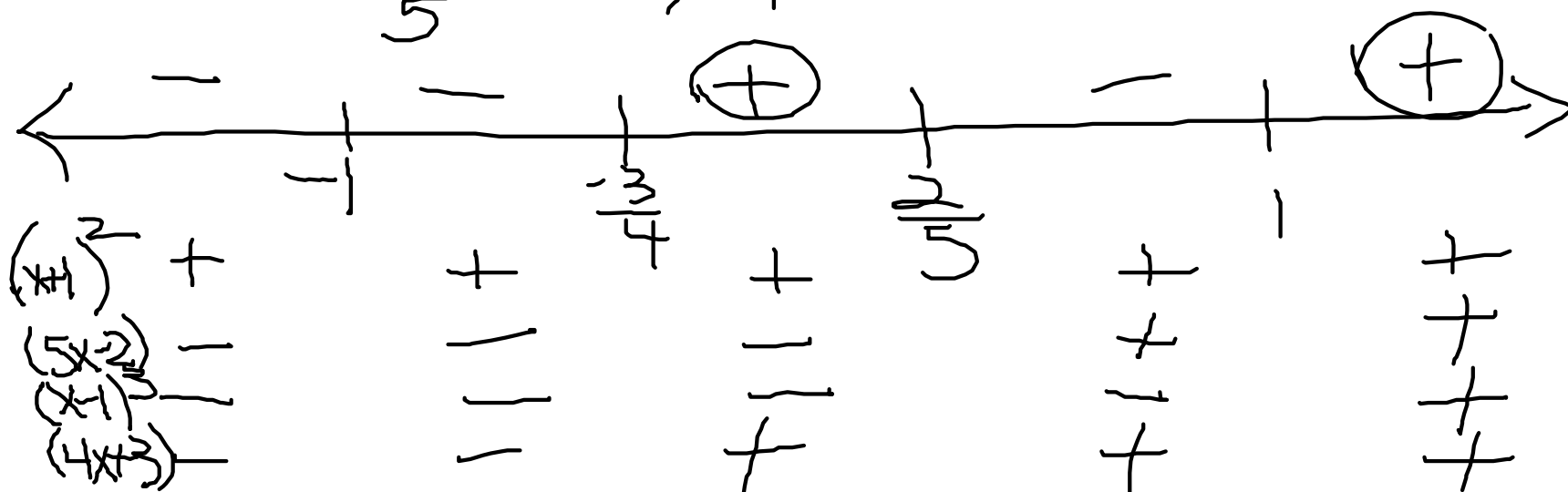


$$\left(\frac{1}{3}, \frac{2}{3}\right) \cup \left(\frac{2}{3}, 8\right)$$

$$\textcircled{7} \quad \frac{(x+1)^2(5x-2)}{(x-1)^3(4x+3)} \geq 0$$

$$\{-1\} \cup \left(-\frac{3}{4}, \frac{2}{5}\right] \cup (1, \infty)$$

$$cx, -1, \frac{2}{5}, 1, -\frac{3}{4}$$



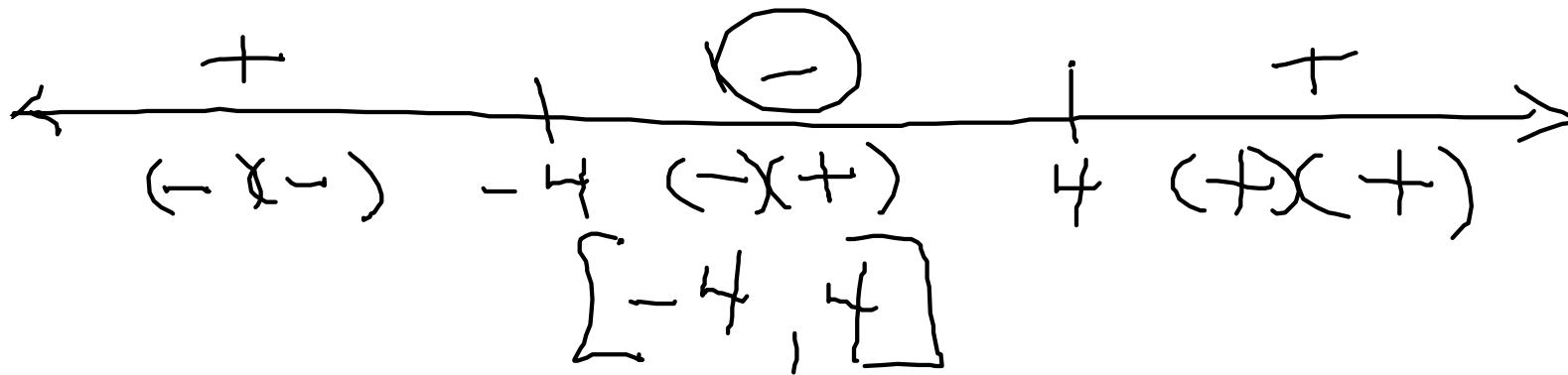
1)

$$3t^2 - 48 \leq 0$$

$$3(t^2 - 16) \leq 0$$

$$3(t-4)(t+4) \leq 0$$

$$CV \quad 4, -4$$



2)

$$4x^2 + 9 > 12x$$

$$4x^2 - 12x + 9 > 0$$

$$(2x - 3)^2 > 0$$

$$x \neq \frac{3}{2}$$



$$\left(-\infty, \frac{3}{2}\right) \cup \left(\frac{3}{2}, \infty\right)$$

3)

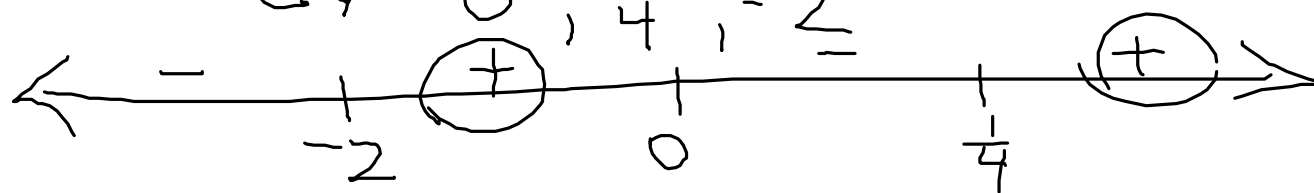
$$2x^2 - 5x < 3$$

4)

$$4m^3 + 5m^2 - 2m + 5 \geq -2m^2 + 5$$

$$m(4m-1)(m+2) \geq 0$$

$$CV \quad 0, \frac{1}{4}, -2$$



$m$	-	-	+	+
$4m-1$	-	-	-	+
$m+2$	-	+	+	+

$[-2, 0] \cup [\frac{1}{4}, \infty)$

$$3) \quad \frac{3x^2 - 8x + 5}{x^2 - 25} \geq 0$$

$$\frac{(3x-5)(x-1)}{(x-5)(x+5)} \geq 0 \quad \text{cx } \frac{5}{3}, 1, 5, -5$$





HW pg 146-147 27-42,55-59 all  
PLUS EXTRA PROBLEM:

$$\frac{6r^2 + 7r + 2}{r^2 - r} \leq 0$$